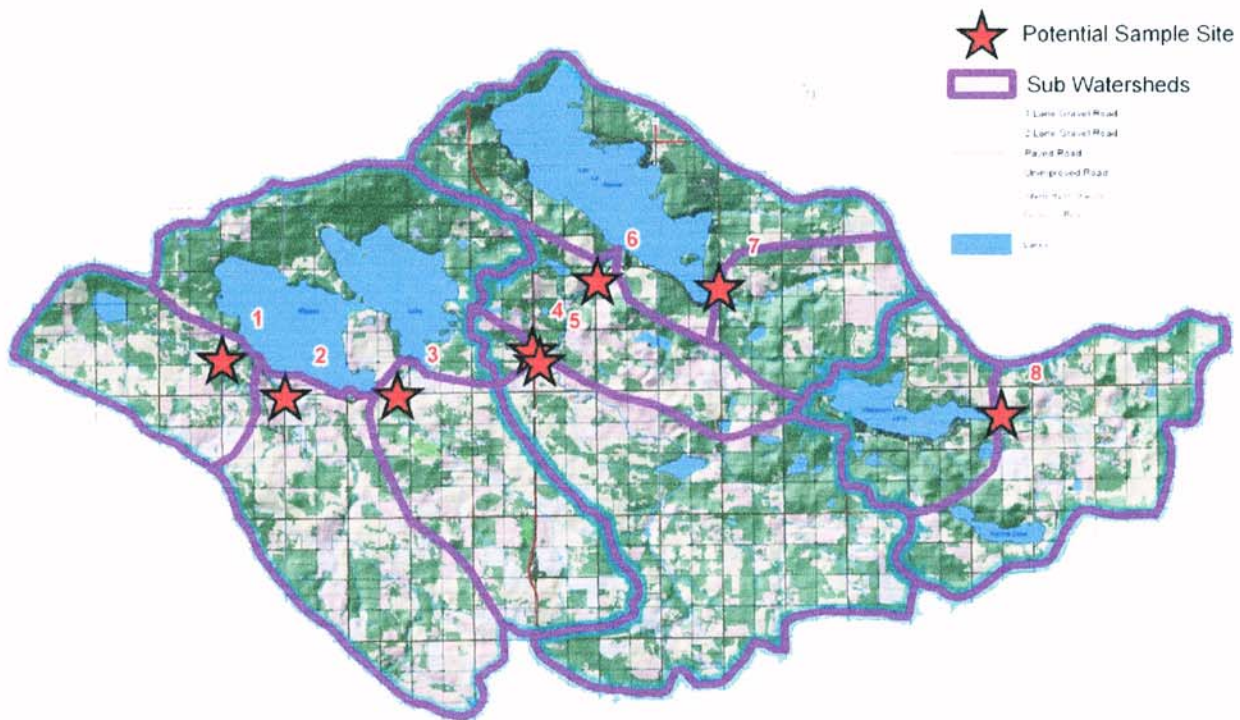


# Lac la Nonne Stream Water Quality Study: Comparison between 2005 and 2007

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In the spring of 2004, the Lac la Nonne Enhancement and Protection Association (LEPA) in partnership with Aquality Environmental Consulting Ltd. implemented a Stream Water Quality Monitoring Program. This year (2007) is the fourth year of the monitoring program. Volunteers from the Lac la Nonne Watershed Stewardship Society (LWSS) and LEPA collected samples from tributaries flowing into Lac la Nonne, Majeau Lake and Lake Nakumun (Figure 1). Sites were sampled for nutrients, bacteria and other water chemistry parameters. The effectiveness of best management practices can be monitored by comparison with baseline data collected in 2004/2005. The spring averages for 2005 and 2007 were calculated and compared (Table 1).



**Figure 1.** Lac la Nonne stream water quality study sampling sites (highlighted with red stars).

All nutrient values, except for nitrate-nitrite were lower at all sites in 2007 compared to 2005. However, total phosphorus (TP) and total kjeldahl nitrogen (TKN) were still well above the Alberta Water Quality Guidelines for the Protection of Aquatic Life (AWQG PAL) at all eight sites (Table 1). *E. coli* counts in 2007 were considerably lower than those of 2005. Total suspended solids (TSS) were also lower in 2007, but total dissolved solids were higher compared to 2005. In 2007 potassium (K) was lower, while calcium (Ca), sodium (Na) and magnesium (Mg) were higher. Chloride (Cl) was lower at six of eight sites (higher at sites 3 and 4). Sulfate (SO<sub>4</sub>) was considerably higher (at least double) at all the sites in 2007 compared to values measured in 2005. Hardness, electrical conductivity (EC) and bicarbonate (HCO<sub>3</sub>) were all higher in 2007 compared to 2005 (Table 1).